

SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

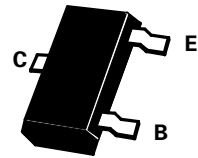
BCW66

ISSUE 4 - MARCH 2001

PARTMARKING DETAILS –

| | | | |
|----------|----|-----------|----|
| BCW66F – | EF | BCW66FR – | 7P |
| BCW66G – | EG | BCW66GR – | 5T |
| BCW66H – | EH | BCW66HR – | 7M |

COMPLEMENTARY TYPE – BCW68



SOT23

ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|-------------|-------------|
| Collector-Base Voltage | V_{CBO} | 75 | V |
| Collector-Emitter Voltage | V_{CEO} | 45 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Continuous Collector Current | I_C | 800 | mA |
| Peak Collector Current(10ms) | I_{CM} | 1000 | mA |
| Base Current | I_B | 100 | mA |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | P_{tot} | 330 | mW |
| Operating and Storage Temperature Range | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

BCW66

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|---|-----------------------|-------------------------------|------|------------|---------------------|---|
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 45 | | | V | $I_{CEO}=10\text{mA}$ |
| | $V_{(BR)CES}$ | 75 | | | V | $I_C=10\mu\text{A}$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 5 | | | V | $I_{EBO}=10\mu\text{A}$ |
| Collector-Emitter Cut-off Current | I_{CES} | | | 20 20 | nA μA | $V_{CES}=45\text{V}$ $V_{CES}=45\text{V}, T_{amb}=150^{\circ}\text{C}$ |
| Emitter-Base Cut-Off Current | I_{EBO} | | | 20 | nA | $V_{EBO}=4\text{V}$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | | 0.3 0.7 | V V | $I_C=100\text{mA}, I_B=10\text{mA}$ $I_C=500\text{mA}, I_B=50\text{mA}^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | | 2 | V | $I_C=500\text{mA}, I_B=50\text{mA}^*$ |
| Static Forward Current Transfer | BCW66F | h_{FE} 75 100 35 | 160 | 250 | | $I_C=10\text{mA}, V_{CE}=1\text{V}$ $I_C=100\text{mA}, V_{CE}=1\text{V}^*$ $I_C=500\text{mA}, V_{CE}=2\text{V}^*$ |
| | BCW66G | h_{FE} 110 160 60 | 250 | 400 | | $I_C=10\text{mA}, V_{CE}=1\text{V}$ $I_C=100\text{mA}, V_{CE}=1\text{V}^*$ $I_C=500\text{mA}, V_{CE}=2\text{V}^*$ |
| | BCW66H | h_{FE} 180 250 100 | 350 | 630 | | $I_C=10\text{mA}, V_{CE}=1\text{V}$ $I_C=100\text{mA}, V_{CE}=1\text{V}^*$ $I_C=500\text{mA}, V_{CE}=2\text{V}^*$ |
| Transition Frequency | f_T | 100 | | | MHz | $I_C=20\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$ |
| Output Capacitance | C_{obo} | | 8 | 12 | pF | $V_{CB}=10\text{V}, f=1\text{MHz}$ |
| Input Capacitance | C_{ibo} | | | 80 | pF | $V_{EB}=0.5\text{V}, f=1\text{MHz}$ |
| Noise Figure | N | | 2 | 10 | dB | $I_C=0.2\text{mA}, V_{CE}=5\text{V}$ $R_G=1\text{k}\Omega$ |
| Switching times: Turn-On Time Turn-Off Time | t_{on} t_{off} | | | 100 400 | ns ns | $I_C=150\text{mA}$ $I_{B1}=I_{B2}=15\text{mA}$ $R_L=150\Omega$ |

Spice parameter data is available upon request for this device

*Measured under pulsed conditions.

